

iv. 13 (1824). *P. Anserina*, β . *grandis* T. & G. Fl. i. 444 (1840). *Argentina Egedii* Rydb. Mem. Dept. Bot. Columbia Univ. ii. 158 (1898) in part. *A. Anserina grandis* Rydb. l. c. 161 (1898). *A. pacifica* Rydb. in N. A. Fl. xxii pt. 4, 353 (1908). *A. litoralis* Rydb. l. c. 354 (1908). *A. subarctica* Rydb. l. c. 354 (1908).—From Greenland to northeastern Siberia, extending southward, in damp brackish or saline soils, chiefly near the coast to Long Island, New York, California, and Japan; in arctic and subarctic situations and in unfavorable conditions southward becoming very small.

+ + Calyx and lower surfaces of the simply pinnate leaves glabrous or glabrate.

P. EGEDII Wormsk. Fl. Dan. ix. fasc. 27, 5. t. 1578 (188). *P. Anserina*, δ *Egedii* T. & G. Fl. i. 444 (1840). *P. Anserina*, var. *concolor* Lange, Consp. Fl. Groenl. 234 (1887) not Wallr. *Argentina Egedii* Rydb. Mem. Dept. Bot. Columbia Univ. ii. 158 (1898) in part.—Arctic regions, extending south on our coast to northern Labrador.

GRAY HERBARIUM.

SALIX SUBSERICEA A DISTINCT SPECIES.

F. F. FORBES.

FOR the past two seasons the writer has been much puzzled by a willow the characters of which do not agree with any description given in the current manuals. This willow is rather common in the vicinity of Boston, growing in wet places where willows usually thrive. The writer has collected it in different locations in Dedham, West Roxbury, and Arlington. Leaf-specimens collected in western Massachusetts and in southern New York indicate that it has quite a wide range.

It was at first suspected that the willow in question might be a hybrid between *Salix cordata* Muhl. and *S. sericea* Marsh., but study of numerous specimens from many different shrubs shows that it cannot be a hybrid. As far as the writer's observations go, willows which are hybrids between two definite species do not present constant characters. One shrub may have the fruit more like that of one parent and the leaves more like those of the other; or the shrubs may be quite intermediate in most respects; but no two of them are alike.

The willow under consideration, however, is fully as constant in its characters as *Salix cordata* Muhl., while it is clearly separated from its near relatives, *S. petiolaris* Sm. and *S. sericea* Marsh. The leaves, which resemble those of *S. cordata* much more than those of *S. petiolaris* or *S. sericea* and remain green or blacken but slightly in drying, have beneath and usually on the midvein above a permanent pubescence, which is not so dense or silky as that of *S. sericea*. The small glandular-toothed stipules are a little less deciduous than those of *S. sericea* and *S. petiolaris*, some of them usually being present at the end of the season. The leaves and branches make a greater angle with the twigs and main trunks respectively than do those of the two latter species and give the shrub a somewhat zigzag appearance in the field. The aments and capsules are best described by saying that they are quite intermediate between those of *S. petiolaris* and *S. sericea*. In the former species the aments (at least when young) are leafy-bracted at base and in maturity appear loose from the lengthening of the pedicels; the oblong-spatulate scales are brown to yellowish; and the long-beaked capsules (6.5–8 mm. long) are on pedicels which usually much exceed the scales. In *S. sericea* the dense aments are slightly if at all bracted at base, the short oblong scales are blackish, and the round-tipped capsule (2.5–4.5 mm. long) is on a pedicel which about equals or only slightly exceeds the scale. In the plant under special consideration the ament is leafy-bracted at base as in *S. petiolaris* and it is nearly as loosely flowered as in that species, the scales are blackish and oblong as in *S. sericea*, and the lance-conic blunt capsule (5–7 mm. long) is elevated on a pedicel which is once and a half or twice as long as the scale.

From *Salix cordata*, which it somewhat resembles in foliage, the problematic willow is quickly distinguished by the pubescent capsule, the smaller usually deciduous stipules, and the strongly whitened lower surface of the leaves, as well as by numerous other characters. A hybrid of this willow and *S. cordata* has been found and is now growing near the ice-house on Cow Island, West Roxbury.

A search in the Gray Herbarium and the Herbarium of the New England Botanical Club has revealed some doubtful foliage-specimens; but only one sheet of specimens which is positively identified with the writer's material has been found. This, however, is a very important specimen, for it is the type of Andersson's *Salix petiolaris*,

a, subsericea,¹ which was collected in May, 1847, at Fresh Pond by the late George B. Emerson. Andersson treated *S. petiolaris* as an aggregate species with five chief components, among them *S. petiolaris*, ϵ , *sericea* (*S. sericea* Marsh.). The young branch of the Fresh Pond shrub was described as follows:

“*a, subsericea*, foliis initio sat dense sericeo-pubescentibus demum subglabratis pilis raris subtus derelictis anguste lanceolatis margine crenulatis, amentis subdensifloris, capsulis brevius pedicellatis obtusiusculis. (*S. sericea* Hb. Asa Gray e Massachusetts). Haec quum habitu tum notis *S. sericeae* maxime affinis, a qua vix differt nisi amentis magis laxifloris, capsulis longioribus et foliis demum subtus subglabratis.”²

Further search of literature shows that in 1901, Dr. Rydberg, without any apparent knowledge either of Andersson's description or the very accessible type from Massachusetts, made the combination “*Salix sericea subsericea* (Anders.) Rydb.,”³ citing definitely as a synonym “*S. petiolaris subsericea* Anders.,” for a plant with “capsule smaller”! and said to grow from New York to Michigan; although a mere reference to Andersson's original description would have shown that *S. petiolaris, a, subsericea* was clearly stated by Andersson to have the capsules longer (“capsulis longioribus”) than in *S. sericea* and to come from Massachusetts.

The latest mention of the plant found is by Schneider in 1904, when he treated it as a hybrid of *Salix sericea* and *S. petiolaris*:

“*S. sericea* \times *petiolaris*: *S. subsericea* (*petiolaris* var. *subsericea* Anderss., in DC., l. c. 234; *sericea* var. *subsericea* Rydbg., in Britt. Manual 318. 1901). Scheint unter den beiden Elternnamen in Kultur und hält nach meinen Beobachtungen zieml. genau die Mitte zwischen diesen.”⁴

The writer ventures to say that if Andersson had had the material now available he would have considered this willow a good species. It certainly resembles *S. petiolaris* more than it does *S. sericea*; but, as its characters are essentially constant wherever the shrub has been found and as it is quite fertile and without the tendencies we have learned to expect in hybrid willows, there seems to be no reason why

¹ Anders. in DC. Prodr. xvi. pt. 2, 234 (1864).

² Anders, l. c.

³ Rydberg in Britton, Man. 318 (1901).

⁴ Schneider, Handbuch der Laubholzkunde, pt. 1, 65 (1904).

it should not have specific recognition. The foregoing observations may be briefly summarized as follows.

SALIX SUBSERICEA (Anders.) Schneider. Large shrub (2 to 2.5 m. high), with more or less zigzag habit, the reddish- or olive-brown branches making a considerable angle with the trunks; branchlets puberulent when young, soon glabrate: leaves lanceolate, when young loosely sericeous, in maturity glaucous and sparingly sericeous or glabrate beneath, dark green and somewhat lustrous except for the finely puberulent dull pale midrib above, 6–10 cm. long, 1.2–2.2 cm. broad, rather coarsely appressed serrate, the teeth about 5 to a centimeter; petioles slender, 1–1.5 cm. long: stipules small, lanceolate, acuminate, serrulate. Winter-buds puberulent: aments leafy-bracted at base, loosely to subdensely flowered, in maturity 2–3 cm. long: scales oblong, with rounded blackish pilose tips: capsule lance-conic, blunt, loosely sericeous, 5–7 mm. long, its slender pedicel once and a half or twice as long as the scale and many times exceeding the minute gland (about 0.3 mm. long).—Handbuch der Laubholz. pt. 1, 65 (1904). *S. petiolaris*, *a. subsericea* Anders. in DC. Prodr. xvi. pt. 2, 234 (1864). *S. sericea subsericea* Rydb. in Britton, Man. 318 (1901) as to name-bringing synonym but not as to plant described. *S. sericea* × *petiolaris* Schneider, l. c. (1904).—Originally described from Fresh Pond, Cambridge, Massachusetts, coll. May, 1847 (*Geo. B. Emerson*): now known to be generally distributed in the neighborhood of Boston; and apparently westward to southern New York.

The writer is indebted to Prof. M. L. Fernald for his kind assistance in the bibliographical part of this article.

BROOKLINE, MASSACHUSETTS.

SOME INTERESTING MAINE PLANTS.

JOSEPH A. CUSHMAN.

DURING August and September of 1907 I spent the larger part of the time in collecting in various parts of Maine. During August about two weeks were spent about Machias Bay with headquarters at Roque Bluffs. Mr. C. H. Knowlton has already noted the character of the region and some of the interesting plants of the mainland (RHODORA, ix. 218).